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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,034	01/21/2005	Norio Nakayama	018765-208	1521
21839 7590 08/21/2007 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER BERMAN, SUSAN W	
			ART UNIT 1711	PAPER NUMBER
			MAIL DATE 08/21/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/522,034

Applicant(s)

NAKAYAMA ET AL.

Examiner

/Susan W. Berman/

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,8,10-12 is/are rejected.
- 7) ☒ Claim(s) 4-7 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

The rejection of claims 1-12 under 35 U.S.C. 112, second paragraph, is withdrawn.

The rejection of claims 1, 2 and 10-12 under 35 U.S.C. 102(e) as being anticipated by Shustack et al (6,656,990) is withdrawn.

The rejection of claims under 35 U.S.C. 102(e) as being obvious over Shustack et al (6,656,990) in view of JP 09-309923 is withdrawn. The thio (meth)acrylates of formula (1) as set forth in the original claims disclosed by J '923 are not longer included in the instant claims.

Response to Arguments

Applicant's arguments filed 05-29-2007 have been fully considered but they are not persuasive. Applicant argues that the instantly claimed invention can provide unexpectedly superior results. This argument is not persuasive for the following reasons. The closest prior art is to Shustack et al '990. Shustack et al disclose compositions comprising ultrafine inorganic particles and a thioacrylate compound and teach that both the ultrafine inorganic compounds and the thioacrylate compounds have high refractive indexes. Comparative examples 1-7 in Table 1 in the instant specification are not representative of the disclosure of Shustack et al. Furthermore, Shustack et al teach that the disclosed ultrafine inorganic particles provide high refractive index. Comparative examples 9 and 10 are not representative of the closest teaching of Shustack et al because the acrylate compounds are not thio(meth)acrylate compounds, as taught by Shustack et al. Example 8 in Table 1 wherein the composition comprises a thioacrylate compound of one of formula (5) taught by J '665 or Example 9 wherein the composition comprises a thioacrylate compound of one of formula (6) taught by J '563 do not provide any unexpected results

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compared with Example 2 in Table 1, which contains a thioacrylate compound representative of applicant's formula (4) disclosed by Shustack et al. Example 18 in Table 2 wherein the composition comprises a thioacrylate compound of formula (6) taught by J '665 or Example 19 wherein the composition comprises a thioacrylate of formula (5) taught by J '563 or and set forth in the instant claims does not provide any unexpected results compared with Example 20 in Table 2, which contains a thioacrylate compound representative of applicant's formula (4) disclosed by Shustack et al.

Claim Objections

Claims 5 and 10 are objected to because of the following informalities: The claims, in line 2, recite "composition...is coated" and then recite "cured with ultraviolet rays has (1) ...". It is suggested that "is coated" should read "coated". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1, 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shustack et al (6,656,990) in view of each of JP 08-295665 or JP 09-132563. Shustack et al disclose curable high refractive index compositions comprising metal oxide nanoparticles and a high refractive index monomer or oligomer. The oligomers disclosed include a (meth)acrylate

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functional thioether (column 6, lines 64-66, and column 7, lines 3-20). Compositions comprising bis(4-methacryloylthiophenyl)sulfide high refractive index monomer and nanoparticles are taught in column 10, lines 10-29, and in the Examples. Shustack et al do not teach each of the specific formulae now set forth in claim 1.

J '665 discloses compositions comprising thio (meth)acrylates that give lenses having excellent optical characteristics, high refractive index and excellent scratch resistance.

Thio(meth)acrylates of formula (1) corresponding to formula (5) in instant claim 1 are taught.

Photoinitiators are taught in paragraph [0014]. J '665 does not mention fillers or particles.

J '563 discloses compositions comprising thio (meth)acrylates that give lenses having excellent optical characteristics, high refractive index and excellent scratch resistance.

Thio(meth)acrylates of formula (1) corresponding to formula (6) in instant claim 1 are taught.

Photoinitiators are taught in paragraph [0017]. J '563 does not mention fillers or particles.

It would have been obvious to one skilled in the art at the time of the invention to employ any of the thio(meth)acrylates taught by J '665 or J'563 instead of or in addition to the high refractive index thio(meth)acrylate monomer in the compositions disclosed by Shustack et al.

One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation that the thio(meth)acrylate monomers taught by each of the Japanese references would function in the same manner as the thio(meth)acrylate monomer disclosed by Shustack et al in the compositions disclosed by Shustack et al. Shustack et al provide motivation by teaching use of a high refractive index thio(meth)acrylate monomer. Each of J '665 and J'563 teaches thio(meth)acrylate monomers having high refractive index properties.

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Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shustack et al (6,656,990) in view of each of JP 08-295665 or JP 09-132563, as applied to claim 2 above, and further in view of EP 0 378 895. Shustack et al disclose compositions for making optical devices having a high refractive index but do not mention including a (meth)acrylate compound having a thiourethane bond. EP '895 discloses polythiourethane (meth)acrylate compounds for preparing plastic lenses having a high refractive index and low dispersion of refractive index (page 2, lines 36-40). EP '895 teaches adding filler (page 6, lines 19-21).

It would have been obvious to one skilled in the art at the time of the invention to include a thiourethane (meth)acrylate, as taught by EP '895, in the compositions disclosed by Shustack et al. Shustack et al provide motivation by teaching compositions comprising high refractive index oligomers. EP '895 provide motivation by teaching that the disclosed polythiourethane (meth)acrylates have a high refractive index. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of providing useful a optical device having a high refractive index, as taught by each of Shustack et al and EP '895.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shustack et al (6,656,990), as applied to claim 1 above, and further in view of EP 0 378 895. Shustack et al disclose compositions for making optical devices having a high refractive index but do not mention including a (meth)acrylate compound having a thiourethane bond. EP '895 discloses polythiourethane (meth)acrylate compounds for preparing plastic lenses having a high refractive index and low dispersion of refractive index (page 2, lines 36-40). EP '895 teaches adding filler (page 6, lines 19-21).

It would have been obvious to one skilled in the art at the time of the invention to include a thiourethane (meth)acrylate, as taught by EP '895, in the compositions disclosed by Shustack et al. Shustack et al provide motivation by teaching compositions comprising high refractive index oligomers. EP '895 provide motivation by teaching that the disclosed polythiourethane (meth)acrylates have a high refractive index. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of providing useful a optical device having a high refractive index, as taught by each of Shustack et al and EP '895.

Allowable Subject Matter

Claims 4-7 and 9 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. The cited art does not teach adding hydroxy-functional (meth)acrylates and β -diketones to the compositions disclosed by Shustack et al.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Susan W. Berman/ whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SB
8/19/2007

/Susan W Berman/
Primary Examiner
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